Running Jobs Before Dedicated Time

The PBS batch scheduler supports a feature called shrink-to-fit (STF). This feature allows you to specify a range of acceptable wall times for a job, so that PBS can run the job sooner than it might otherwise. STF is particularly helpful when scheduling jobs before an upcoming dedicated time.

For example, suppose your typical job requires 5 days of wall time. If there are fewer than 5 days before the start of dedicated time, the job won't run until after dedicated time. However, if you know that your job can do enough useful work running for 3 days or longer, you can submit it in the following way:

```
qsub -l min_walltime=72:00:00,max_walltime=120:00:00 job_script
```

When PBS attempts to run your job, it will initially look for a time slot of 5 days. When no such time slot is found between now and the dedicated time, it will look for shorter and shorter time slots, down to the minimum wall time of 3 days.

If you have an existing job that is still queued, you can use the `qalter` command to add these `min_walltime` and `max_walltime` attributes:

```
qalter -l min_walltime=hh:mm:ss,max_walltime=hh:mm:ss job_id
```

You can also use the `qalter` command to change the wall time:

```
qalter -l walltime=hh:mm:ss job_id
```

Note: For jobs on Endeavour, be sure to include both the job sequence number and the PBS server name, pbspl4, in the *job_id* (for example, `2468.pbspl4`).

If you have any questions or problems, please contact the NAS Control Room at (800) 331-8737, (650) 604-4444, or by email at support@nas.nasa.gov.